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09/910,862	07/24/2001	Tomoaki Kawada	HITA.0090	4055

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Stanley P. Fisher  
Reed Smith Hazel & Thomas LLP  
Suite 1400  
3110 Fairview Park Drive  
Falls Church, VA 22042-4503

EXAMINER

LESPERANCE, JEAN E

ART UNIT	PAPER NUMBER
2674	

DATE MAILED: 12/27/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/910,862

Applicant(s)

KAWADA ET AL.

Examiner

Jean E Lesperance

Art Unit

2674

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 07 January 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1,3-8,10-15 and 17-26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 3-8, 10-15 and 17-26 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 July 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

### DETAILED ACTION

1. Claims 1, 3-8, 10-15 and 17-26 are presented for examination.
2. The request for continued examination filed on 10/13/2004 is entered.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 3-8, 10-15 and 17-26 are rejected under U.S.C. 103 (a) as being unpatentable over U.S. Patent number 6,147,725 ("Yuuki et al.") in view of Japanese Patent # 09-258030 (Kayoko et al.).

As for claim 1, Yuuki et al. teach the liquid crystal panel module 5 is arranged at the side of an inner face of a metallic case 6 of the liquid crystal display device 4 (Fig.1) and it is inherent in an LCD to include a pair of substrates between which a liquid crystal layer is interposed corresponding to a liquid crystal panel having a pair of substrates between which a liquid crystal layer is interposed; the liquid crystal panel module 5 is comprised of a backlight unit 10 disposed at the rear surface of the liquid crystal panel (Fig.2) corresponding to a backlight being disposed at a rear surface side of the liquid crystal panel; and equilateral prisms are located between the light guide plate and

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reflecting sheet of the backlight unit in a direction parallel to a polarization axis of the polarizing plate of the liquid crystal panel unit (abstract, lines 7-10) corresponding to a diffusing sheet and a prism sheet lying between the rear surface of the liquid crystal panel and the backlight, wherein the light guide plate has a rectangular shaped Fig.2 (11) corresponding to the backlight has a substantially rectangular-shaped light guide plate being formed of a transparent plate and the fluorescent lamp is disposed along a incidence plane provided at one side of the light guide plate corresponding to a linear lamp being disposed along a incidence plane provided at one side of the light guide plate; a plurality of grooves and located opposite the front surface, and a side surface transverse to the front and rear surfaces (column 9, lines 57-59) and as can be seen in Figure 6, where the lamp 13 occupied the entire rear surfaces which means also that the light emission or the lamp 31 is placed at the corner of the light guide plate and creates a plurality of grooves which the examiner is interpreted as corresponding to a light emission pattern having a plurality of grooves slanted to the one side of the light guide plate. Accordingly, the prior art teaches all the claimed limitations as recited in claim 1 with the exception of providing a light guide plate on a back surface except for a center portion of the light guide plate.

However, Kayoko et al. teach to correct the luminance level of the incident side end of a light guide plate and to lessen unequal brightness by forming regions for irregular reflecting illuminate light on the flanks and end face sides of a planar member (abstract) corresponding to a light guide plate on a back surface except for a center portion of the light guide plate. See Figures 1 and 2.

It would have been obvious to a person of ordinary skill in the art to utilize the correction as taught by Kayoko et al. in the liquid crystal panel disclosed by Yuuki et al. because this would allow light to be even on the entire planar member.

As for claim 7, Yuuki et al. teach the liquid crystal panel module 5 is arranged at the side of an inner face of a metallic case 6 of the liquid crystal display device 4 (Fig.1) and it is inherent in an LCD to include a pair of substrates between which a liquid crystal layer is interposed corresponding to a liquid crystal panel having a pair of substrates between which a liquid crystal layer is interposed; the liquid crystal panel module 5 is comprised of a backlight unit 10 disposed at the rear surface of the liquid crystal panel (Fig.2) corresponding to a backlight being disposed at a rear surface side of the liquid crystal panel; and equilateral prisms are located between the light guide plate and reflecting sheet of the backlight unit in a direction parallel to a polarization axis of the polarizing plate of the liquid crystal panel unit (abstract, lines 7-10) corresponding to a diffusing sheet and a prism sheet lying between the rear surface of the liquid crystal panel and the backlight, wherein the light guide plate has a rectangular shaped Fig.2 (11) corresponding to the backlight has a substantially rectangular-shaped light guide plate being formed of a transparent plate and the fluorescent lamp is disposed along a incidence plane provided at one side of the light guide plate corresponding to a linear lamp being disposed along a incidence plane provided at one side of the light guide plate; a plurality of grooves and located opposite the front surface, and a side surface transverse to the front and rear surfaces (column 9, lines 57-59) and as can be seen in Figure 6, where the lamp 13 occupied the entire rear surfaces which means

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also that the light emission or the lamp 31 is placed at the corner of the light guide plate and creates a plurality of grooves which the examiner is interpreted as corresponding to a light emission pattern having a plurality of grooves slanted to the one side of the light guide plate and fine dots.

As for claim 15, Yuuki et al. teach the liquid crystal panel module 5 is arranged at the side of an inner face of a metallic case 6 of the liquid crystal display device 4 (Fig.1) and it is inherent in an LCD to include a pair of substrates between which a liquid crystal layer is interposed corresponding to a liquid crystal panel having a pair of substrates between which a liquid crystal layer is interposed; the liquid crystal panel module 5 is comprised of a backlight unit 10 disposed at the rear surface of the liquid crystal panel (Fig.2) corresponding to a backlight being disposed at a rear surface side of the liquid crystal panel; and equilateral prisms are located between the light guide plate and reflecting sheet of the backlight unit in a direction parallel to a polarization axis of the polarizing plate of the liquid crystal panel unit (abstract, lines 7-10) corresponding to a diffusing sheet and a prism sheet lying between the rear surface of the liquid crystal panel and the backlight, wherein the light guide plate has a rectangular shaped Fig.2 (11) corresponding to the backlight has a substantially rectangular-shaped light guide plate being formed of a transparent plate and the fluorescent lamp is disposed along a incidence plane provided at one side of the light guide plate corresponding to a linear lamp being disposed along a incidence plane provided at one side of the light guide plate; a plurality of grooves and located opposite the front surface, and a side surface transverse to the front and rear surfaces (column 9, lines 57-59) and as can be

seen in Figure 6, where the lamp 13 occupied the entire rear surfaces which means also that the light emission or the lamp 31 is placed at the corner of the light guide plate and creates a plurality of grooves which the examiner is interpreted as corresponding to a light emission pattern having a plurality of grooves slanted to the one side of the light guide plate.

As for claims 3-6, 8, 10-14, and 17-23, Kayoko et al. teach Figure 14 with a plurality of grooves at the corners of the planar member (2) where the light create a plurality of grooves. In this figure the light emission pattern are higher at an end side of the corner portion on the surface of the light guide plate is inherent. The grooves are formed radially out from the end side of the corner portion is inherent also in figure 14. The grooves are parallel to each other is inherent (See Figure 14). The arrangement density of the grooves is controlled by altering respective arrangement intervals or individual depths of the grooves is inherent (See figure 14). At least part of the area at which the fine dots are formed are overlapped with one another on the main surface of the light guide plate is also inherent in figure 14 of the prior art (See figure 14). The first and second grooves are overlapped with the display area of the liquid crystal panel, and not formed on a center portion of the light guide plate is inherent also in figure 14 of the prior art.

As for claims 24 to 26, Yuuki et al. teach a state of the reflecting members 50a-50f in the light guide plate 11. As described before, the polarizing plate 16 shown in FIGS. 2 and 3 has a polarization axis perpendicular to the axis of the lamp. On the other hand, the reflecting members 50a-50f are arranged to be perpendicular to the

polarization axis of the polarizing plate 16, in other words, parallel to the axis of the lamp. Each of the reflecting members 50a-50f is a transparent body having a uniform index of refraction  $n$ , more specifically, a prism having an isosceles triangular cross section of 0.25 mm height, 120.degree.vertex angle and 30.degree. base angles (column 5, lines 63-67 and column 6, lines 1-7) (see Figure 4) corresponding to wherein the light guide plate is transparent.

#### ***Response to Amendment***

4. Applicant's arguments filed 8/6/2004 have been fully considered but they are not persuasive. The applicant argued that none of the references cited teaches or suggests a plurality of grooves which are formed at the corner portion of the display and examiner disagrees with the applicant's statement. See the last office action on page 3 which reads "a plurality of grooves and located opposite the front surface, and a side surface transverse to the front and rear surfaces (column 9, lines 57-59) of Yuuki et al. and as can be seen in Figure 6, where the lamp 13 occupied the entire rear surfaces which means also that the light emission or the lamp 31 is placed at the corner of the light guide plate and creates a plurality of grooves which the examiner is interpreted as corresponding to a light emission pattern having a plurality of grooves slanted to the one side of the light guide plate". The applicant argued that Kayoko's plurality of light diffusion members are formed at the corners of the front and side surfaces of the light guide plate, rather than the back surface. Examiner disagrees with the applicant because it is obvious that the light guide plate from the side surface is reflected on the



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back surface as well. The applicant argued that the prior art does not teach a plurality of grooves overlap with the display area. Examiner disagrees and advised the applicant to read Figure 6 of Yuuki et al. where the light guide plate member 31 and the reflecting members 50g-50r overlapped each other. Therefore, the rejection is maintained.

### **Conclusion**

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jean Lesperance whose telephone number is (703) 308-6413. The examiner can normally be reached on from Monday to Friday between 8:00AM and 4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Hjerpe, can be reached on (703) 305-4709.

**Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks

Washington, D.C. 20231

**or faxed to:**

(703) 872-9314 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

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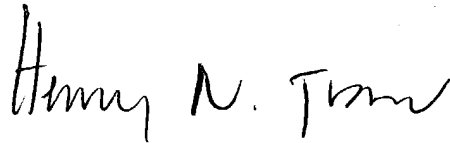
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Jean Lesperance



Date 12/22/2004

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HENRY N. TRAN  
PRIMARY EXAMINER